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NOTES.

FEELING.

Of the eighteen papers read at the Princeton meeting of the American Psychological Association in 1894, seven were concerned with affective processes,—pleasure, pain or emotion. The technical journals have published many articles upon the same topics during the current year; and a book upon the “Feelings” is promised by Professor Ribot. This preponderance of interest in the affective side of mind is not by any means accidental. It shows that psychologists are realizing (what is indisputable) that experimental investigations of sensation and conation have been unduly preferred in the past, that feeling is not so well understood as association, memory, or attention. Somewhat unfortunately, more work has centred upon emotion than upon the simpler processes of pleasantness and unpleasantness: unfortunately, because to understand the complex, we must previously understand the simple. But this very fact suggests that it may be useful here to consider the defects which reviewers have pointed out in the most recent systematic attempt at a feeling-psychology, — the discussion by Külpe in his “*Grundriss der Psychologie*.”

Külpe recognizes the feeling qualities, pleasantness and unpleasantness, as elemental qualities of mind. His treatment is unsatisfactory in three respects: as regards the relation of feeling to sensation, as regards affective introspection, and as regards psychophysical theory.

1. Feeling may be related to sensation, the author says, in one of three ways. It may be an attribute of sensation; it may be a function of sensation; or, it may be a coördinate process. The first possibility is quickly, and (it seems) effectively, disposed of. The second is also rejected. From the logical standpoint, the reader may well be a little surprised at this. Had Külpe retained the activity consciousness, Wundt's apperception, intact, he would have been obliged to show the impossibility of functional relation between feeling and sensation (or, better, sense stimulus). But, apperception being reduced to something else, there is no logical necessity for the isolation of the two remaining elements: the discussion looks like a survival from a period of thought in which the activity consciousness was admitted to be elemental. To this it must be added that the actual arguments alleged are not entirely convincing; that the “serial method” of affective investigation demands a “certain dependency” of feeling upon sense stimulus; and that some measure of truth is believed by the author to reside in the “peripheral physiological” theory of pleasure and pain.

This difficulty is expressed somewhat differently by Dr. Meumann (*Année psychologique*, p. 511). “It may be questioned,” he writes, “whether the three hypotheses formulated by the author are the

only possible alternatives. Could we not think of some other kind of relation as obtaining between sensations and feelings?" Külpe's three relations, indeed, may very easily be increased to five: feeling may be sensation attribute, a function of sensation, coördinate with sensation, dependent upon sensation in some way not functionally expressible, or—itself sensation. Dr. Meumann appears to have the fourth of these possibilities in mind; and it may have been suggested by Külpe's section on the serial method. The fifth we shall return to later.

2. Another point is emphasized by Dr. Martius (*Zeits. f. Psych.*, IX, p. 42). We must not neglect, he says, to analyze feeling, wherever possible, "from mere inner experience." But when we look to see how Külpe conceives of this analysis, we find but scanty indications. The dependency-formula of *sensible* discrimination is:

$$SD = \frac{f A. E. P. B._1}{g F. H. B._2} M. L.,$$

where *A* is attention; *E*, expectation; *H*, habituation; *P*, practice; *F*, fatigue; *B*, bodily processes; *M*, memory, and *L*, language. The dependency-formula of feeling includes *A*, *E*, *H*, *F* among its factors. But the formula cannot be written out as it can for sensation. Attention to the sense concomitants of the feeling intensifies it; attention to the feeling kills it (§39; 1, 2, 3). The same holds of expectation. *M* and *L* (not involved, however, if the expressive method is followed) are equally equivocal. Plainly, then, there can be no pure formula for any "affective discrimination;" while a mixed formula lays all the weight upon the sensible.

What are the facts? Can we "feel" differently, and express the difference, independently of sensation? If we can, what is the mechanism of the process? Külpe has analyzed sensible discrimination so successfully that our regret must be the greater that he has said nothing upon the point. So much, at least, seems clear,—that the "psychological methods" which he enumerates are not directly applicable to the study of pleasantness-unpleasantness.

3. The third unsatisfactoriness in Külpe's treatment is the obscurity and vagueness of his *theory* of feeling. He would apparently combine the views of Lotze and Wundt, making both more definite. But no definite propositions are offered. Here, however, it is rather our general ignorance of the facts than any cloudiness of the author's thinking which is to blame.

The fifth possibility, mentioned above under 1, was that feeling might be sensation. As there are not a few psychologists who favor this view, more or less explicitly, it will not be out of place to state the arguments urged by Külpe against it. They are briefly as follows: (a) Feelings have not, as sensations have, any objective significance apart from their subjective or psychological. (b) Feelings are far less dependent upon external stimuli than are sensations. They depend upon mental dispositions, which have their history. (c) The qualities of sensations are dependent upon the excitation of quite definite peripheral and (probably) central organs. The qualities of feeling evince no determinable dependency upon particular external bodily organs: of their relation to the central organ we know nothing certainly. (d) Feeling is blunted by practice and habituation in a way which differentiates it from sensation.

Until these differences have been resolved, there seems to be no choice but to accept feeling as ultimately distinct from sensation in the normal human consciousness.

BIBLIOGRAPHIES.

Experimental psychology now possesses no less than three bibliographies. The *Zeits. f. Psych.* has published yearly indices since 1889; the *Année psychologique* and the *Psychological Index* have made a beginning with the literature of 1894. All three are imperfect, so that all three must be consulted; after consultation, the inquirer may look further for himself.

The existence of three yearly indices plainly involves much needless labor and expense. There is, moreover, an especial danger in the present instance. The *Psych. Index* for 1894 appeared in March, 1895. The *Année psych.* for the same year, advertised for March, seems to have been issued in April, 1895. The *Zeitschrift* index for 1891 is dated February, 1893; that for 1892, August, 1893; that for 1893, October, 1894; that for 1894 is unpublished at the time of this writing. It may very well be that the compilers of the latter, trusting that the *Psych. Index* is complete for American titles, and the *Année psych.* for French, will check their lists by reference to the two previously issued indices. Such a course would be most unfortunate. The *Index* is incomplete as regards the United States; while, on the other hand, its first three pages contain two French and two Italian titles (Nos. 22, 35, 46, 50) which do not appear at all in the *Année psych.*

Much better results would be reached by the formation of a central bureau,—and Germany has the claim of priority. For (1) the *Index* could then be made really complete, the compilers of the *Année psych.* being responsible, *e. g.*, for French, Spanish and Italian titles; the compilers of the *Psych. Index*, for English and American, and the German compilers for the rest. (2) International coöperation would render possible a sifting of the titles included in the bibliography, and would thus ensure the elimination of certain grotesque items in the present lists. (3) A less severe draft would be made upon the purse of the individual psychologist. And (4) the way would be paved for the incorporation of the psychological output in the "international catalogue of scientific literature" now mooted in the technical journals. Even if the work required a full year for its completion, proof-sheets, issued to subscribers as published, would be as valuable as the imperfect lists which are at present obtainable in March or April.

If the three indices continue to appear side by side, it is to be hoped that the *Année psych.* will in future refrain from translating foreign titles into French. The proceeding is contrary to every principle of sound bibliography. And as the great majority of the works catalogued have been competently reviewed antecedently to their listing, it is also to be hoped that brief characterizations and appraisements of their contents, over the reviewer's signatures, may be appended to their titles.

THE VISUAL QUALITIES.

It has been customary to accredit sight with about 41,000 qualities of color and brightness. The scattered statements in the literature seemed to justify the assumption that there were some 800 distinguishable brightnesses between the limits of the deepest black and the most dazzling white; some 200 distinguishable colors in a solar spectrum of average intensity; and some 200 distinguishable degrees of saturation for each of these 200 qualities (not 800, as might be imagined, since brightness discrimination suffers very considerably by the intermixture of homogeneous with the mixed light); in all, 41,000, more or less, and probably more.

Professor König has recently computed the number of discriminable spectral colors, and the number of brightnesses from linen to terminus of stimulation (*Zeitschr. f. Psych.*, VIII, pp. 375 ff.). He gives the former as 160, the latter as 660. If these numbers are correct, the total falls to about 33,000. It may very well be, however, that Professor König has underestimated the number of qualities on the brightness scale.

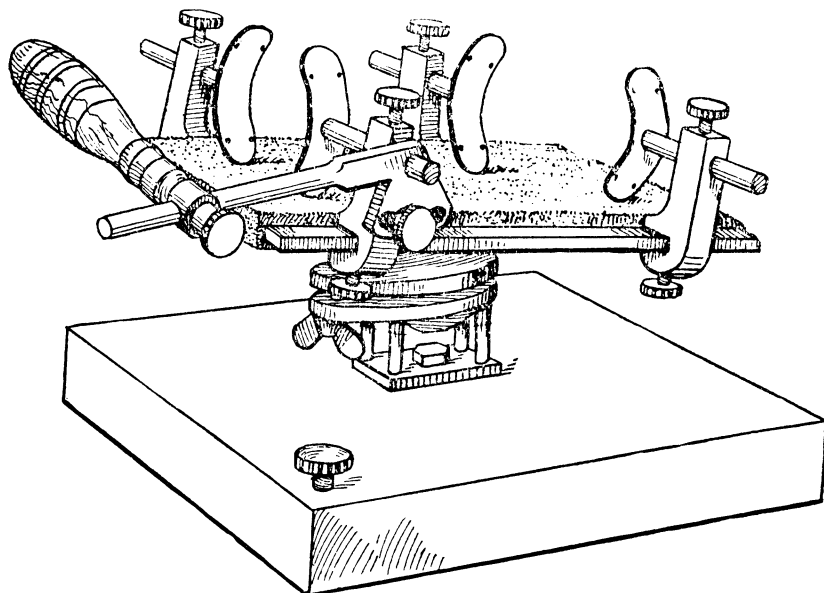
THE SPECTRUM TOP.

If a top composed of black and white sectors is rotated at a certain most favorable rapidity and in a certain most favorable illumination, the white clearly takes on the tint of the spectral color series, from red to violet. This fact has been recently discussed at length in various scientific journals; and Messrs. Newton & Co., of London, have even taken out a copyright on the manufacture of the requisite black and white discs for demonstration of the phenomenon.

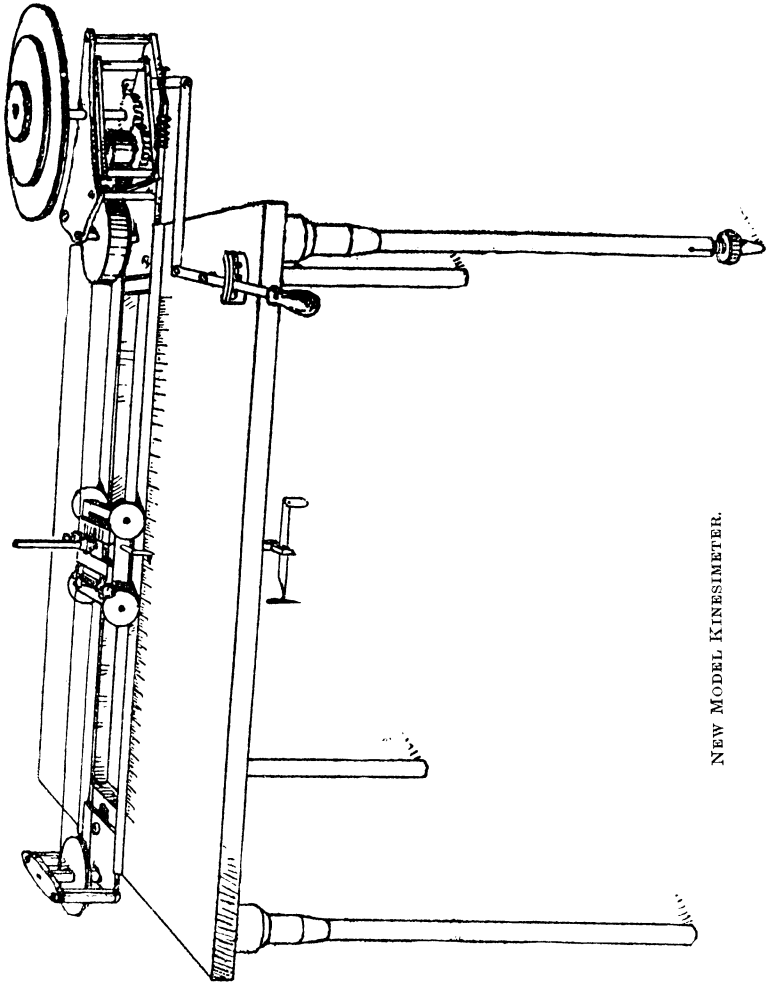
Professor Cattell has pointed out (*Science*, July 5, 1895) that the spectrum top was known to Fechner in 1838, and that an explanation of its colors has been offered by Rood (1860), Brücke (1864), and Aubert (1865). Aubert gives two patterns (*Phys. d. Netzhaut*, pp. 355, 378). Helmholtz also devotes some pages to the top, figuring two disc patterns (*Phys. Optik*, 1867, pp. 380, 381; new ed., pp. 530, 531). The demonstration of the subjective spectrum by its aid is a familiar experiment in psychophysical laboratories (*Of. Sanford's Laboratory Course*, ch. vi).

THE NEW MODEL KINESIMETER.

The following cuts illustrate the new model arm-rest and kinesimeter constructed at the Yale workshop for the Cornell Laboratory and described in the previous volume of the JOURNAL.



NEW MODEL ARM-REST.



NEW MODEL KINESIMETER.

CONGRESSES, ETC.

The sixty-third annual meeting of the British Medical Association was held in London July 30 to August 2, 1895. Dr. Mickle was president, and Drs. McDowall, Nicolson, Rayner, Savage, Shaw and Weatherly vice-presidents of the psychological section. Discussions were held on the Treatment of Melancholia (introduced by Dr. Rayner), on Insanity in Relation to Criminal Responsibility (Dr. Maudsley), and on Epilepsy and its Relation to Insanity (Dr. Gowers). Papers were read by Dr. Bond on the "Relation of Diabetes to Insanity;" by Dr. Head on "Mental Symptoms in Relation to Bodily Diseases in the Sane;" by Dr. Maude on "Mental Symptoms in Relation to Exophthalmic Goitre;" by Dr. Reynolds on "Mental

Symptoms of Bodily Diseases;" by Dr. Shaw on "The Early Symptoms of Insanity;" by Dr. Campbell on "A Comparison of the Breaking-strain of Ribs in the Sane and the Insane;" by Dr. Percy Smith on "Voluntary Boarders in Asylums;" by Dr. Savage on "Insanity in Conduct;" by Dr. Shuttleworth on the "Operative Treatment of Idiocy;" and by Dr. Weatherly on the "Law in Relation to Single Patients."

THE LATE PROFESSOR OLIVER.

The death of Professor J. E. Oliver of Cornell University should not pass unchronicled by psychological journals. Professor Oliver's interest in psychological questions is shown by his paper on "A Mathematical View of Free-will" (*Philosophical Review*, May, 1892), and by his participation in Miss Parrish's study of the cutaneous estimation of open and filled space (this JOURNAL, January, 1895). He also read the manuscript of Mr. Pillsbury's paper (published in the present number of the JOURNAL), having followed the investigation closely from its beginning.

Two of the problems which Professor Oliver had in mind for solution during the last two years of his life were psychological in nature. The first was that of the determination of the number of discriminable visual qualities (brightnesses and colors). He was keenly interested in the recent developments of optical theory, and especially in the question of the identity or difference of saturations and illuminations. The other—which was eminently characteristic of him—was that of attaching a mathematical or quasi-mathematical value to happiness. The ingredients of happiness were to be tabulated, by aid of the *questionnaire*; and these ingredients to be "weighted" in accordance with their statistical place in the whole series. The plan, if realized, would enable us to mark off the units upon what the Professor at the Breakfast Table calls "the dynamometer of happiness."

NEWS FROM THE LABORATORIES.

Professor Külpe, for many years Wundt's chief assistant at Leipzig, has been called to the chair of Philosophy at Würzburg. The University possesses at present no psychological laboratory.

Dr. E. Meumann, the author of important researches on the "time-sense" and on rhythm, will succeed Dr. Külpe at the Leipzig institute.

Professor Stumpf is busy furnishing a large laboratory at Berlin; and Professor Ebbinghaus will inaugurate one at Breslau. Dr. Schumann, who has been associated with Professor Müller at Göttingen, goes to Berlin, without habilitating, as Stumpf's assistant. Dr. Pilzecker (who has written on the attention under Müller's direction) succeeds Dr. Schumann.

M. V. Henri, one of the collaborators of M. Binet in the compilation of his *Introduction à la psychologie expérimentale*, is working for the Leipzig Doctorate with Wundt.

Dr. Marbe, the inventor of the new rotation apparatus, becomes assistant to Professor Martius at Bonn.

Professor Wundt is engaged upon a new edition of his *Logik*.